

Local rehab facility taps into NASA technology



Belleair Health Care Center, a five-star ranked facility by the Florida Agency for Health Care Administration, is actively offering anti-gravity treadmill therapy for medically prescribed treatment programs. They're using a treadmill called the AlterG for several types of treatment.

“Imagine not being able

to comfortably walk for any reason. It could be a stroke or balance issue, obesity, pain in the ankle, knee, and hip or back – these are the problems that we're trying to solve for our patients and we see the real world use and outcomes with the AlterG,” says Michelle Newton, director of rehabilitation for Belleair Health Care Center. The AlterG operates with differential air pressure (DAP). It's patented gravity know-how that's rooted in science. Robert Whalen, a NASA researcher, is founder of the concept using advanced DAP machinery for weight support and the biomechanics of astronaut exercise in space.

For patients, it means they can start post-surgical lower extremity therapy earlier than expected because of the ability to offset weight. Using the new treadmill takes a few steps. Patients don a pair of therapy provided neoprene shorts and step into a flexible air chamber. Being encircled waist high, they are zipped into the pressure tank to create an airtight seal. The machine is then calibrated by a therapist in order to give the appropriate levitation. The chamber inflates and the air pressure inside creates upward lift, floating patients up and off of gravity. We use this evidenced based therapy to get patients to a higher state of being,” reports Newton. To get to that state, they use a form of bio-feedback via monitors and video cameras integrated with the space-age treadmill. They report it increases a patient's “neuroplasticity.” It's a fancy word that means that the brain can be rewired. Newton gives a synopsis of neuroplasticity. “Think of your brain like it's a ski hill. Each time you plow down the hill on your skis you imbed a path in the snow. If you repeatedly go down that same trail, the path gets deeper and deeper making it difficult to take a new direction.” “Liken that to

someone who is having problems with balance, stroke or pain. They get up and walk but the neurons that encode memory aren't being rewired. They are taking you down the same path. The brain continues to bear our former footprints that dictate our steps," she says. "This means that people are actually learning how to fall, learning how to walk the same painful walk and learning how to lurch and gimp with each step," says Newton and further states that muscles also have memory and also tie into the dysfunctional process. The good news is that the brain can be rewired. It takes new input. Technology like the AlterG and the therapists who use the newer modalities rely on video cameras and upfront monitors for all to view and it's a live recording of each step. "When transmission from the body and from the eyes enters into our cortex, the brain expands and it essentially allows for more connections and faster learning," says Newton.

Belleair Health Care Center offers comprehensive outpatient and inpatient therapy services for short or long term care and can be reached at 727-585-5491 and located at 1150 Ponce De Leon

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